

# Commercial Space Transportation License

License Number: LLO 01-059 (Rev 1)

## ORBITAL SCIENCES CORPORATION

**is authorized, subject to the provisions of 51 USC Subtitle V, Ch. 509, and the orders, rules, and regulations issued under it, to conduct launches.**

General. Orbital Sciences Corporation is authorized to conduct: (i) flights of Pegasus launch vehicles from Cape Canaveral Air Force Station (CCAFS), Florida, as specified in license orders issued by the Office; and (ii) pre-flight ground operations at CCAFS associated with the conduct of flights that require a Federal Aviation Administration license.

**This license is granted subject to the terms, conditions, and limitations set forth in licensing orders A, B, C, and D, and any subsequent orders issued by the Office of Commercial Space Transportation.**

**The licensee shall at all times conduct its operations in accordance with the regulations prescribed by the Office of Commercial Space Transportation for the activities authorized by this license.**



US Department  
of Transportation  
Federal Aviation  
Administration

800 Independence Ave., S.W.  
Washington, D.C. 20591

**Issued On: March 16, 2001  
Effective On: March 18, 2001**

**Rev 1 Issued On: March 11, 2011  
Effective On: March 18, 2011**

  
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Manager, Licensing and Safety Division

**Revision History:**

Original license - Issued March 16, 2001

Revision 1 - Issued March 11, 2011

- 1) Due to transfer of code, redesignated Authority to read: "51 USC, Subtitle V, Ch. 509"
- 2) Replaced "Associate Administrator for" with "Office of" prior to all the name Commercial Space Transportation.
- 3) Removed "on flight azimuths and transporting classes of payloads to orbital destinations" as the words are unnecessary. These conditions are specified in the License Order No. LLO 01-059B.
- 4) Removed "commercial space" preceding "launches" in first paragraph and "flights" in the second paragraph.
- 5) Redesignated License No. LLO 01-059 to "LLO 01-059 (Rev 1)."

**License Order No. LLO 01-059A (Rev 1)**

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**LAUNCHES**

AUTHORIZED BY LICENSE NO. LLO 01-059  
ISSUED TO

ORBITAL SCIENCES CORPORATION

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1. Authority: This Order is issued to Orbital Sciences Corporation (OSC) under 51 U.S.C. Subtitle V, Chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LLO 01-059 originally issued on March 16, 2001, by the Office of Commercial Space Transportation (Office), authorizing OSC to conduct launches; and prescribes as conditions to License No. LLO 01-059 certain requirements applicable to those launches.
3. Definitions: For purposes of License No. LLO 01-059 and any orders issued by the Office pertaining to activities covered by License No. LLO 01-059:
  - (a) "Launch" shall mean (i) flight and (ii) pre-flight ground operations, as defined in this section.
  - (b) "Flight" shall mean the flight of Pegasus launch vehicles and classes of payloads to orbital destinations, on Pegasus flight azimuths, as specified in License Order No. LLO 01-059B issued concurrently by the Office, commencing upon take-off of the L-1011 carrier aircraft from CCAFS for aircraft flight to the designated release area for purposes of releasing a Pegasus launch vehicle. For the Pegasus launch vehicle, a nominal flight is concluded upon safing of Pegasus launch vehicle stages or components that reach earth orbit following separation of the payload. For the L-1011 carrier aircraft, a nominal flight is concluded upon the

**License Order No. LLO 01-059A (Rev 1)**

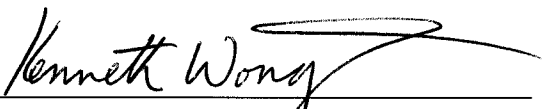
release of the Pegasus launch vehicle. In the event of an aborted attempt to release the Pegasus launch vehicle following the take-off of the L-1011, a flight attempt is completed when the L-1011 aircraft lands at CCAFS or an emergency divert facility with the Pegasus still attached.

(c) "Pre-flight ground operations" shall mean OSC's operations at CCAFS associated with the conduct of any flight requiring an FAA license, beginning with the arrival of the launch vehicle at CCAFS.

(d) For purposes of License No. LLO 01-059, "take-off" of the L-1011 carrier aircraft is deemed to commence upon roll forward of the carrier aircraft immediately following removal of the Pegasus safe and arm pins.

4. License Term: The term of License No. LLO 01-059 authorizing OSC to conduct launches is five (5) years from the effective date of the renewal of the license (March 18, 2011).

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By:   
Kenneth Wong, Manager  
Licensing and Safety Division

Issued: March 11, 2011

Effective: March 18, 2011

**Revision History:**

Original License Order Issued - March 16, 2001

Revision 1 - Issued March 11, 2011

- 1) Due to transfer of code, redesignated Authority to read: "51 U.S.C. Subtitle V, Ch. 509"
- 2) Replaced "Associate Administrator for" with "Office of" prior to all the name Commercial Space Transportation.
- 3) In paragraph 2, replaced "amends" with "modifies" and "concurrently" with "on March 16, 2001."

**License Order No. LLO 01-059A (Rev 1)**

- 4) Eliminated paragraphs 4 through 12.
- 5) Renumbered paragraph 13 as paragraph 4 and replaced "this license" with "the renewal of the license (March 18, 2011)." This incorporates the renewal for an additional five year period beyond that originally introduced in License Order No. LLO 01-059E (now obsolete).
- 6) Removed "commercial space" in all instances preceding "launch" or flight.
- 7) Replaced "shall be deemed" and "will be deemed" with "is" for the sake of plain English.
- 8) In the new paragraph 4, replaced "this license" with "the renewal of the license (March 18, 2011)." This incorporates the renewal for an additional five year period beyond that originally introduced in License Order No. LLO 00-053E (now obsolete).
- 9) Redesignated License Order No. LLO 01-059A with "(Rev 1)" following.

**License Order No. LLO 01-059B (Rev 1)**

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**FLIGHT**

AUTHORIZED BY LICENSE NO. LLO 01-059  
ISSUED TO

ORBITAL SCIENCES CORPORATION

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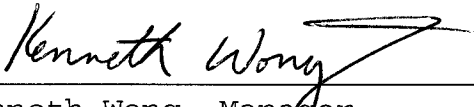
1. Authority: This Order is issued to Orbital Sciences Corporation (OSC) under 51 U.S.C. Subtitle V, Chapter 509, and 14 C.F.R. Ch. III.
2. Purpose: This Order modifies License No. LLO 01-059 originally issued on March 16, 2001, by the Office of Commercial Space Transportation (Office), authorizing OSC to conduct launches; and prescribes as conditions to License No. LLO 01-059 certain requirements applicable to the authorization to conduct flights.
3. Authorization: OSC is authorized to conduct flights:
  - (a) Using Standard Pegasus, Standard Pegasus with Hydrazine Auxiliary Propulsion System (HAPS), Pegasus XL and Pegasus XL with HAPS launch vehicles, in combination with the Federal Aviation Administration certificated L-1011 aircraft for aircraft flight to the designated release area for purposes of releasing the Pegasus launch vehicle;
  - (b) From CCAFS, Florida;
  - (c) On Pegasus flight azimuths from 43 to 119 degrees, inclusive;
  - (d) Transporting (i) U.S. Government payloads to any orbit, and (ii) communications, remote sensing and scientific research, and Celestis payloads designed to operate in low earth orbit (specifically, apogees

**License Order No. LLO 01-059B (Rev 1)**

less than 3,000 nautical miles and perigees between 100 and 500 nautical miles);

- (e) According to the launch vehicle, launch vehicle systems, and equipment designs and the safety management program including organization, personnel, functions and procedures represented or referenced in the OSC application as of the date of this Order, and any modifications to the license application approved by the Office, in writing.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By:   
Kenneth Wong, Manager  
Licensing and Safety Division

Issued: March 11, 2011

Effective: March 18, 2011

**Revision History:**

Original License Order Issued - March 16, 2001

Revision 1 - Issued March 11, 2011

- 1) Due to transfer of code, redesignated Authority to read: "51 U.S.C. Subtitle V, Ch. 509"
- 2) Replaced "Associate Administrator for" with "Office of" prior to all the name Commercial Space Transportation
- 3) In paragraph 2, replaced "amends" with "modifies" and "issued concurrently" with "originally issued on March 16, 2001."
- 4) From paragraph 3 (a), removed: "For the Pegasus launch vehicle, a nominal commercial space flight shall be deemed concluded upon safing of Pegasus launch vehicle stages or components that reach earth orbit following separation of the payload. For the L-1011 carrier aircraft, a nominal commercial space flight shall be deemed concluded upon the release of the Pegasus launch vehicle. In the event of an aborted attempt to release the Pegasus launch vehicle following the take-off of the L-1011, a commercial space flight attempt will be deemed completed when the L-1011 aircraft lands at WFF or an emergency divert facility with the Pegasus still attached." This text is redundant with that in paragraph 3(b) of License Order No. LLO 01-059A.

**License Order No. LLO 01-059B (Rev 1)**

- 5) Corrected the second (c) under paragraph 3 to (d).
- 6) Eliminated paragraphs 4 through 8.
- 7) Removed "commercial space" in all instances preceding "launch" or "flight."
- 8) Replaced "shall be deemed" with "is" for the sake of plain English.
- 9) Reordered (a), (b), and (c) under paragraph 3.
- 10) Redesignated License Order No. LLO 01-059B with "(Rev 1)" following.



OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**PRE-FLIGHT GROUND OPERATIONS**

AUTHORIZED BY LICENSE NO. LLO 01-059  
ISSUED TO

ORBITAL SCIENCES CORPORATION

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1. Authority: This Order is issued to Orbital Sciences Corporation (OSC) under 51 U.S.C. Subtitle V, Chapter 509, and 14 C.F.R. Ch. III.
  2. Purpose: This Order modifies License No. LLO 01-059 originally issued on March 16, 2001, by the Office of Commercial Space Transportation (Office), authorizing OSC to conduct launches for which an FAA license is required, and prescribes as conditions to License No. LLO 01-059 certain additional requirements applicable to the authorization to conduct pre-flight ground operations.
  3. Authorization: OSC is authorized to conduct pre-flight ground operations at Cape Canaveral Air Force Station (CCAFS) associated with the conduct of any flights for which an FAA license is required, beginning with the arrival of the Pegasus launch vehicle at CCAFS.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By: Kenneth Wong  
Kenneth Wong, Manager  
Licensing and Safety Division

Issued: March 11, 2011

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**License Order No. LLO 01-059C (Rev 1)**

**Revision History:**

Original License Order Issued - March 16, 2001

Revision 1 - Issued March 11, 2011

- 1) Due to transfer of code, redesignated Authority to read: "51 U.S.C. Subtitle V, Ch. 509"
- 2) Replaced "Associate Administrator for" with "Office of" prior to all the name Commercial Space Transportation
- 3) In paragraph 2, replaced "amends" with "modifies" and "issued concurrently" with "originally issued on March 16, 2001."
- 4) Eliminated paragraphs 4 and 5.
- 5) Removed "commercial space" in all instances preceding "launches" or "flights."
- 6) Redesignated License Order No. LLO 01-059C with "(Rev 1)" following.

**License Order No. LLO 01-059D (Rev 1)**

OFFICE OF  
COMMERCIAL SPACE TRANSPORTATION  
LICENSE ORDER REGARDING

**FINANCIAL RESPONSIBILITY REQUIREMENTS**

AUTHORIZED BY LICENSE NO. LLO 01-059  
ISSUED TO

ORBITAL SCIENCES CORPORATION

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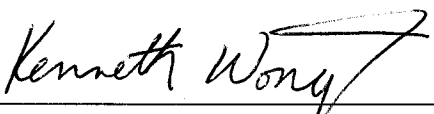
1. Authority: This Order is issued to Orbital Sciences Corporation (OSC) under 51 U.S.C. Subtitle V, Chapter 509, and 14 C.F.R. Part 440.
2. Purpose: This Order modifies License No. LLO 01-059 (the License) originally issued on March 16, 2001, by the Office of Commercial Space Transportation (Office), by prescribing financial responsibility requirements for licensed launch activities in accordance with 14 C.F.R. Part 440.
3. Liability Insurance: OSC shall maintain a policy or policies of liability insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(b) in the following amounts:
  - (a) Liability insurance in the amount of Thirty Seven Million, Five Hundred Thousand Dollars (\$37,500,000) for covered claims resulting from a flight, commencing upon take-off of the L-1011 carrier aircraft from CCAFS; and
  - (b) Liability insurance in the amount of Ten Million Dollars (\$10,000,000) for covered claims resulting from pre-flight ground operations performed at CCAFS.
4. Government Property Insurance: OSC shall maintain a policy or policies of insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(d) in the following amounts:

**License Order No. LLO 01-059D (Rev 1)**

- (a) Insurance in the amount of One Million Dollars (\$1,000,000) for covered property claims resulting from a flight, commencing upon take-off of the L-1011 carrier aircraft from CCAFS; and
- (b) Insurance in the amount of One Million Dollars (\$1,000,000) for covered property claims resulting from pre-flight ground operations performed at CCAFS.

Covered property includes all property owned, leased, or occupied by, or within the care, custody, or control of, the United States and its agencies, and its contractors and subcontractors involved in licensed launch activities, at CCAFS and Kennedy Space Center.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By:   
Kenneth Wong, Manager  
Licensing and Safety Division

Issued: March 11, 2011

Effective: March 18, 2011

**Revision History:**

Original License Order Issued - March 16, 2001

Revision 1 - Issued March 11, 2011

- 1) Due to transfer of code, redesignated Authority to read: "51 U.S.C. Subtitle V, Ch. 509"
- 2) Replaced "Associate Administrator for" with "Office of" prior to all the name Commercial Space Transportation
- 3) For the sake of consistency, replaced "Under" with "AUTHORIZED BY" in the title.
- 4) In paragraph 2, replaced "amends" with "modifies" and "issued concurrently" with "originally issued on March 16, 2001."
- 5) Eliminated paragraphs 3, 4, 5, and 8 through 12.
- 6) Renumbered paragraphs 6 and 7 as paragraphs 3 and 4, respectively.
- 7) Removed "commercial space" in all instances preceding "launch" or flight.
- 8) Redesignated License Order No. LLO 01-059D with "(Rev 1)" following.